| Ref<br># | Hits | Search Query                                     | DBs   | Default<br>Operator | Plurals | Time Stamp       |
|----------|------|--|---|---------------------|---------|------------------|
| S1       | 40   | ruthenium and plasma same<br>nucleation          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:53 |
| S2       | 6    | S1 and atomic near layer near deposition         | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:52 |
| S3       | 6    | S2 and substrate                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:03 |
| 54       | 6    | S3 and plasma and nucleation                     | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:06 |
| S5       | 6    | S2 and plasma and nucleation                     | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:06 |
| S6       | 113  | atomic near layer near deposition same ruthenium | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 15:18 |
| S7       | 4    | S6 and plasma same nucleation                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 11:53 |
| S8       | 143  | atomic near layer same ruthenium                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2005/05/10 15:18 |

| S9  | 1043 | "7" and plasma same nucleation | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/05/10 15:19 |
|-----|------|--------------------------------|---|----|----|------------------|
| S10 | 1122 | "4" and plasma same nucleation | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/05/10 15:20 |
| S11 | 4    | S8 and plasma same nucleation  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/05/10 15:21 |

| Case 107       | 24438         |  |                            |
|----------------|---------------|--|----------------------------|
| <u>\$15540</u> | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn. and plasma same (time or min or minute\$2 or sec or second\$1)  | 2005-<br>05-10<br>23:49:42 |
| <u>\$15539</u> | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn. and (time or min or minute\$2 or sec or second\$1) and plasma same (time or min or minute\$2 or sec or second\$1) | 2005-<br>05-10<br>23:49:13 |
| <u>S15538</u>  | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn. and (time or min or minute\$2 or sec or second\$1) and plasma   | 2005-<br>05-10<br>23:48:43 |
| <u>\$15537</u> | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn. and (time or min or minute\$2 or sec or second\$1)  | 2005-<br>05-10<br>23:18:35 |
| <u>S15536</u>  | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn. and (time or min or minute\$2 or sec or second\$2)  | 2005-<br>05-10<br>23:17:19 |
| <u>S15535</u>  | <u>U</u> USPT | ('6849122' '6010744' '6841044')!.pn.   | 2005-<br>05-10<br>23:17:06 |
| <u>S15534</u>  | <u>U</u> USPT | ('6841044')!.pn. and (vacuum or evacuat\$4)  | 2005-<br>05-10<br>22:53:47 |
| <u>\$15533</u> | <u>U</u> USPT | ('6841044')!.pn. and (vacuum or evacuat\$4) and plasma and ruthenium   | 2005-<br>05-10<br>22:52:57 |
| <u>S15532</u>  | <u>U</u> USPT | ('6841044')!.pn. and (time or min or minute\$2 or sec or second\$2)  | 2005-<br>05-10<br>22:48:23 |
| <u>\$15531</u> | <u>U</u> USPT | ('6841044')!.pn.   | 2005-<br>05-10<br>22:45:51 |
| <u>\$15530</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (hydrogen or H\$2) and plasma   | 2005-<br>05-10<br>19:24:28 |
| <u>\$15529</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (hydrogen or H\$3) same plasma  | 2005-<br>05-10<br>19:23:49 |
| <u>\$15528</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and ruthenium and thin near (layer\$2 or film\$2) and precursor\$2 and ((atomic near (layer or deposition)) or ALD)         | 2005-<br>05-10<br>19:04:37 |
| <u>\$15527</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and ruthenium and thin near (layer\$2 or  | 2005-                      |

|   |                |               | film\$2) and precursor\$2  | 05-10<br>19:02:47          |
|---|----------------|---------------|--|----------------------------|
|   | <u>\$15526</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (heat\$3 or temperature\$2) and C   | 2005-<br>05-10<br>18:50:54 |
|   | <u>S15525</u>  | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (heat\$3 or temperature\$2)   | 2005-<br>05-10<br>18:42:20 |
|   | <u>S15524</u>  | <u>U</u> USPT | ('6849122' '6010744')!.pn. and argon   | 2005-<br>05-10<br>18:37:51 |
|   | <u>\$15523</u> | <u>U</u> USPT | ('6664168'  '6844258'  '6878628'  '6841044')!.PN. and plasma and ruthenium and (vacuum or evacuat\$4)  | 2005-<br>05-10<br>18:17:33 |
|   | <u>\$15522</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and plasma and ruthenium and (vacuum or evacuat\$4)   | 2005-<br>05-10<br>18:04:18 |
|   | <u>\$15521</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and plasma and ruthenium  | 2005-<br>05-10<br>18:03:39 |
|   | <u>\$15520</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and plasma and rethenium  | 2005-<br>05-10<br>18:02:25 |
|   | <u>\$15519</u> | <u>U</u> USPT | ('6849122' '6010744')! pn. and (time or min or minute\$2 or sec or second\$2) and plasma   | 2005-<br>05-10<br>17:58:18 |
|   | <u>\$15518</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (time or min or minute\$2 or sec or second\$2)  | 2005-<br>05-10<br>17:50:46 |
| • | <u>\$15517</u> | <u>U</u> USPT | atomic near (layer or deposition) same ruthenium and nitrogen same plasma  | 2005-<br>05-10<br>17:16:39 |
|   | <u>S15516</u>  | <u>U</u> USPT | ('6664168'  '6844258'  '6878628'  '6841044')!.PN. and nitrogen same plasma   | 2005-<br>05-10<br>17:11:10 |
|   | <u>S15515</u>  | <u>U</u> USPT | 438/3,151,238,396,612,681,687,722 \$.ccls.(ruthenium and plasma and nucleation and atomic near4 deposition and silicon) and nitrogen same plasma | 2005-<br>05-10<br>17:10:19 |
|   | <u>S15514</u>  | <u>U</u> USPT | •  | 2005-<br>05-10<br>17:07:41 |
|   | <u>\$15513</u> | <u>U</u> USPT | (('6887795'  '6887776'  '6849122'  '6841044'  '6812042')!.PN. and ruthenium and substrate\$2) and nitrogen same plasma                           | 2005-<br>05-10             |

| <u>\$15512</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and nitrogen   | 17:05:23<br>2005-<br>05-10             |
|----------------|---------------|---|--|
| <u>\$15511</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and oxygen same plasma   | 17:04:36<br>2005-<br>05-10<br>16:50:04 |
| <u>S15510</u>  | <u>U</u> USPT | ('6849122' '6010744')!.pn. and (silicon or SI\$3) and substrate\$2  | 2005-<br>05-10<br>16:41:02             |
| <u>S15509</u>  | <u>U</u> USPT | ('6849122' '6010744')!.pn. and ruthenium and ((atomic near (layer or deposition)) or ALD) and ruthenium   |  |
| <u>S15508</u>  | <u>U</u> USPT | ('6849122')!.PN. and plasma and nucleation and ruthenium and ((atomic near (layer or deposition)) or ALD) | 2005-<br>05-10<br>16:35:15             |
| <u>\$15507</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn. and ruthenium  | 2005-<br>05-10<br>16:33:11             |
| <u>\$15506</u> | <u>U</u> USPT | ('6849122' '6010744')!.pn.  | 2005-<br>05-10<br>16:33:00             |
| <u>\$15505</u> | <u>U</u> USPT | ('6849122')!.PN. and plasma and nucleation and ruthenium  | 2005-<br>05-10<br>16:32:12             |
| <u>S15504</u>  | <u>U</u> USPT | ('6010744')!.PN. and plasma same nucleation and ruthenium and substrate\$2                                | 2005-<br>05-10<br>16:26:14             |
| <u>\$15503</u> | <u>U</u> USPT | ('6010744')! PN. and plasma same nucleation and ruthenium   | 2005-<br>05-10<br>16:16:42             |
| <u>\$15502</u> | <u>U</u> USPT | ('6010744')!.PN. and atomic near (layer or deposition) same ruthenium                                     | 2005-<br>05-10<br>16:16:08             |
| <u>\$15501</u> | <u>U</u> USPT | plasma same nucleation and ruthenium and atomic near (layer or deposition) same ruthenium                 | 2005-<br>05-10<br>15:57:30             |
| <u>\$15500</u> | <u>U</u> USPT | atomic near (layer or deposition) same ruthenium and plasma and nucleation                                | 2005-<br>05-10<br>15:49:20             |
| <u>S15499</u>  | <u>U</u> USPT | atomic near (layer or deposition) same ruthenium  | 2005-<br>05-10<br>15:48:52             |
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| <u>S15498</u>             | <u>U</u> USP  | Γ plasma same nucl  | leation and ruther         | nium and oxygen                                    | 2005-<br>05-10<br>15:30:59 |
|---------------------------|---------------|---|----------------------------|--|----------------------------|
| <u>\$15497</u>            | <u>U</u> USP  | Γ plasma same nucl  | leation and ruther         | nium   | 2005-<br>05-10<br>15:30:28 |
| <u>\$15496</u>            | <u>U</u> USP  | Γ ('6844258'  '68786  | 628')!.PN. and pla         | asma and nucleation                                | 2005-<br>05-10<br>15:25:50 |
| <u>S15495</u>             | <u>U</u> USP  | (ruthenium and pand silicon) and p  |                            | tion and atomic near4 deposition eation            | 2005-<br>05-10<br>15:24:43 |
| <u>S15494</u>             | <u>U</u> USP  | Г ('6844258'  '68786  | 628')!.PN. and pla         | asma same nucleation                               | 2005-<br>05-10<br>15:15:48 |
| <u>S15493</u>             | <u>U</u> USP  | •   |                            | 6841044'  '6812042')!.PN. and asma same nucleation | 2005-<br>05-10<br>15:13:26 |
| <u>S15492</u>             | <u>U</u> USP  | Γ ('6849122')!.PN.  | and plasma and n           | nucleation   | 2005-<br>05-10<br>15:10:42 |
| <u>S15491</u>             | <u>U</u> USP  | Γ ('6849122')!.PN.  | and plasma same            | nucleation   | 2005-<br>05-10<br>15:10:03 |
| <u>S1549</u><br><u>0</u>  |               | (('6887795'  '6887776<br>'6841044'  '6812042'<br>ruthenium and substr<br>oxygen\$2 same plasr | )!.PN. and<br>rate\$2) and | 2005-05-10 14:53:52                                |                            |
| <u>\$1548</u><br><u>9</u> |               | (('6887795'  '6887776<br>'6841044'  '6812042'<br>ruthenium and substr<br>oxygen\$2            | )!.PN. and                 | 2005-05-10 14:51:16                                |                            |
| <u>S1548</u><br><u>8</u>  |               | ('6887795'  '6887776<br>'6841044'  '6812042'<br>ruthenium and substr                          | )!.PN. and                 | 2005-05-10 13:31:44                                |                            |
| <u>S1548</u><br><u>7</u>  |               | ruthenium and plasm<br>and atomic near4 dep<br>silicon  |                            | 2005-05-10 13:18:57                                |                            |
| <u>S1548</u><br><u>6</u>  |               | ('6878628' '6844258' <br>and ruthenium and p<br>nucleation and atomi<br>and silicon           | lasma and                  | 2005-05-10 11:41:57                                |                            |
| <u>S1548</u>              | <u>U</u> USPT | ('6878628' '6844258'  | '6727138')!.pn.            | 2005-05-10 11:41:28                                | ·                          |

| <u>5</u>                  |               | and ruthenium and plasma and nucleation  |                     |  |
|---------------------------|---------------|--|---------------------|--|
| <u>S1548</u><br><u>4</u>  | <u>U</u> USPT | ('6878628' '6844258' '6727138')!.pn.   | 2005-05-10 11:41:07 |  |
| <u>\$1548</u><br><u>3</u> | <u>U</u> USPT | ('6878628' '6844258')!.pn. and ruthenium and plasma same nucleation and silicon\$2 | 2005-05-10 11:32:23 |  |
| <u>\$1548</u><br><u>2</u> | <u>U</u> USPT | ('6878628' '6844258')!.pn. and ruthenium and plasma and nucleation and silicon\$2  | 2005-05-10 11:28:48 |  |
| <u>S1548</u><br><u>1</u>  | <u>U</u> USPT | ('6878628' '6844258')!.pn. and ruthenium and plasma and nucleation                 | 2005-05-10 11:26:02 |  |
| <u>\$1548</u><br><u>0</u> |               | ('6878628' '6844258')!.pn. and ruthenium and plasma same nucleation                | 2005-05-10 11:25:50 |  |
| <u>S1547</u><br><u>9</u>  | <u>U</u> USPT | ('6878628' '6844258')!.pn.   | 2005-05-10 11:25:18 |  |

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